COMMONWEALTH OF MASSACHUSETTS
before the
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

Fitchburg Gas and Electric Light Company	)	**D.T.E. 99-118**

INITIAL BRIEF OF THE ATTORNEY GENERAL

Respectfully submitted,

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I. INTRODUCTION

On December 31, 1999, the Attorney General filed a complaint pursuant G.L. c. 164, § 93, seeking an examination by the Department of Telecommunications and Energy ("Department") of the current rates and charges for electricity sold and delivered by Fitchburg Gas & Electric Company ("Fitchburg" or "Company"). Pursuant to notice duly issued, the Department opened an investigation and held adjudicatory hearings on the complaint.

The Attorney General submits that these hearings produced substantial evidence that warrants only one conclusion: the current rates charged by Fitchburg are unreasonably high. Therefore, the Attorney General requests that the Department, pursuant to § 93, reduce the current rates of the Company. The record demonstrates that a $3.1 million reduction in the Company's rates is necessary to achieve just and reasonable rates for customers. The Attorney General recommends that the decrease be implemented through an equal percentage reduction to all base distribution rate elements excluding the Seabrook Surcharge.

II. PROCEDURAL HISTORY

On December 31, 1999, the Attorney General filed a complaint pursuant G.L. c. 164, § 93, alleging that the electric distribution rates charged by Fitchburg were unreasonably high and

should be reduced. By notice dated November 15, 2000, the Department scheduled a public hearing on the complaint for Thursday, December 14, 2000, in Fitchburg, Massachusetts. A procedural conference was held on December 19, 2000.

On January 5, 2001, the Hearing Officer issued a memorandum setting forth the procedural schedule: it required the Company to file an answer by January 16, 2001, commenced the discovery period, set deadlines for the submission of pre-filed testimony and briefing and scheduled evidentiary hearings for April 2-3, 2001. The Attorney General initiated discovery on Monday, January 8, 2001, and subsequently issued several rounds of discovery. On January 17, 2001, the Attorney General received a copy of the Company's motion to dismiss accompanied by a proposed answer. On January 18, 2001, the Company served a response to the Attorney General's second set of information requests, and filed a motion to define the scope of the proceedings.

The Attorney General opposed the motion to dismiss on January 22, 2001, and filed a cross motion for leave to amend the complaint. The Company did not file an opposition to the Attorney General's motion to amend the complaint.[1] The Attorney General also opposed the motion to define the scope of the proceedings and filed a cross motion to compel discovery responses on January 25, 2001. On March 13, 2001, the Department issued an interlocutory decision that overruled Fitchburg's objections to certain of the Attorney General's discovery requests and ordered the Company to respond promptly. *Fitchburg Gas and Electric Light Company*, D.T.E. 99-118, pp. 9-10 (March 13, 2001). The order also defined the scope of the

[1] Although the Department has acted on the numerous other pre-hearing procedural motions in the interlocutory order, the Company's motion to dismiss and the Attorney General's cross-motion for leave to amend the complaint are still pending.

proceedings and set the relevant test year as 1999. *Id.*, at pp. 8-9.

The Attorney General filed the direct and supplemental testimony of David J. Effron. Fitchburg filed direct and supplemental testimony of Mark Collin, Fitchburg's treasurer and treasurer and secretary of Unitil Corporation. The Company also filed the direct testimony of Samuel Hadaway, an outside expert, in conjunction with the supplemental testimony of Mark Collin. After the close of discovery, the Department conducted evidentiary hearings on May 30, 2001, and June 1, 2001. During these hearings Mr. Effron, Mr. Collin and Mr. Hadaway all testified.

III. STANDARD OF REVIEW

The requirements to plead and prove a claim under § 93 are relatively straightforward. The statute, in full, reads as follows:

> On written complaint of the attorney general, of the mayor of a city or the selectmen of a town where a gas or electric company is operated, or of twenty customers thereof, either as to the quality or price of the gas or electricity sold and delivered, the department shall notify said company by leaving at its office a copy of such complaint, and shall thereupon, after notice, give a public hearing to such complainant and said company, and after such hearing may order any reduction or change in the price or prices of gas or electricity or an improvement in the quality thereof, and a report of such proceedings and the result thereof shall be included in the report required by section seventy-seven. Such an order may likewise be made by the department, after notice and hearing as aforesaid, upon its own motion. The price or prices fixed by any such order shall not thereafter be changed by said company except as provided in section ninety-four.

G. L. c. 164, § 93. In the interlocutory order the Department acknowledged that § 93 investigations were more common in the 1920s and 1930s with more recent petitions either settled, withdrawn by the parties or voluntarily converted into a § 94 rate proceeding. *Fitchburg Gas and Electric Light Company*, D.T.E. 99-118, p.4 (March 13, 2001). Considering the

available precedent, however, the Department has interpreted the statute to mean that "once a price-related issue is properly raised by a § 93 complaint, the Department is compelled by statute to give appropriate notice, hold a public hearing and order any suitable change in the price of gas or electricity." *Id*., p.5 *citing Consumers Organization for Fair Energy Equality, Inc. v. Department of Public Utilities*, 368 Mass. 599, 609 (1975).

Although the statute is silent on the topic of which party bears the burden of proof, the Massachusetts Supreme Judicial Court has reasoned while examining § 93 that "the party seeking the benefit of [a rate reduction] has the burden of proving that the existing rate should be changed." *Metropolitan District Commission v. Department of Public Utilities*, 352 Mass. 18, 25 (1967) (citations omitted). G. L. c. 164, § 93. Long-standing evidentiary rules in the Commonwealth dictate that when a party submits a *prima facie* case, then the burden of production shifts to the opposing party. "Prima facie evidence, if not rebutted, compels a finding in accordance with it, i.e., it cannot be disbelieved." *Pahigian v. Manufacturers' Life Insurance Company*, 349 Mass. 78, 85 (1965); *Ford Motor Company v. Barrett*, 403 Mass. 240, 243 (1988). Both the Massachusetts Supreme Judicial Court, as well as the Department, have recognized this basic element of evidentiary law.[2] *Wolf v. Department of Public Utilities*, 407 Mass. 363, 372-373 (1990). Applying these principles to a § 93 proceeding, once a *prima facie* case has been put forward by the Attorney General as to Fitchburg's over-earnings, the burden of production shifts to the Company to produce evidence necessary to rebut the *prima facie* case.

The Department has determined that a "§ 93 earnings investigation is not a § 94 rate

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[2] Federal law addressing rate making proceedings has recognized that under the Natural Gas Act once a party makes a *prima facie* case that existing rates are unjust and unreasonable, the burden shifts to the opposing party to rebut. *Colorado Interstate Gas Company v. FERC*, 904 F. 2d 1456, 1459 (10th Cir. 1990).

case", although certain aspects of the investigation may "resemble customary rate practice." *Fitchburg Gas and Electric Light Company*, D.T.E. 99-118, p. 6 (March 13, 2001). The topics permitted to be raised in a § 93 case are much broader in scope than a traditional rate case and may include a "range of issues concerning rates and quality of service." *Id*. The great number of possible price or quality related issues encompassed by a § 93 investigation justifies the use of analytical techniques appropriate to address the particular matters under review. *Id*. A cost of service study is not a prerequisite to rate adjustment under § 93. *Id*. The Department is free to allocate the utility's revenue requirement among the respective rate classes in the absence of a Department approved cost of service study. *Id*., p. 7 *citing Milford Water Company*, D.P.U. 92-110, at p. 68 (1992); *Colonial Gas Company*, D.P.U. 84-94, at p. 79 (1984); *Western Massachusetts Electric Company*, D.P.U. 957, at p. 97 (1982).

Once the Attorney General has shown by substantial evidence the narrow issue of over-earning by the Company, the Attorney General's burden of proof under the statute has been satisfied. Upon a finding of excessive rates, "the Department has considerable discretion as to the implementation of the appropriate remedy", such as an across-the-board rate decrease or the elimination of the revenue surplus through selective rate adjustment. *Fitchburg Gas and Electric Light Company*, D.T.E. 99-118, p. 7 (March 13, 2001) *citing Lynn Gas and Electric Company*, D.P.U. 8390, at 6 (1949); *Millbury Water Company*, D.P.U. 5244, at 2-3 (1936).

IV. ARGUMENT

A. THE DEPARTMENT HAS ADOPTED A 1999 CALENDAR TEST YEAR

The Department determined that "the use of a calendar test year is the most efficient means to conduct such [a § 93] investigation." *Fitchburg Gas and Electric Light Company*, D.T.E. 99-118, p.4 (March 13, 2001) ("Scope Order"). In a traditional rate case conducted pursuant to G.L. c. 164, § 94:

> the Department examines a test year, which usually represents the most recent twelve-month period for which complete financial information exists, on the theory that the revenue, expense, and rate base figures during that period accurately reflect the utility's present financial situation and fairly predict the company's future performance. To the extent that known or anticipated changes in revenues, expenses, or rate base will distort the correlation among these elements, adjustments are made in the test year data to reflect those changes. *Boston Edison Company v. Department of Public Utilities*, 375 Mass. 1, 24, 375 N.E.2d 305 (1978) *cert. denied* 439 U.S. 921 (1978).

Scope Order, p. 8. The Department held that these same test year principles are applicable to a § 93 earnings investigation, because the Company already files its costs and revenues on a calendar-year basis in its annual report to the Department. *Id.*

With respect to the appropriate calendar test year for this investigation, the Attorney General requested that the Department investigate the Company's distribution rates for 1999. In reviewing that request, the Department noted "[i]nformation for 1998, the most recent year of data as of the time of filing of the Petition, is readily available from the Company," but that the earnings for that year may be distorted by the onset of retail access on March 1, 1998. Scope Order, p. 8. The Department determined that the "most recent year for which complete financial data is readily available is 1999" and that the "financial information for 1999 fully takes into

account the fact that Fitchburg is now a distribution company (i.e., it had divested or was in the process of divesting its generation assets)." *Id.* Therefore, the Department decided to base its investigation of Fitchburg's electric distribution rates on calendar year 1999. *Id.*

However, the Department did indicate that although "the focus of our earnings investigation is on calendar year 1999, information for year 2000 may, to the extent it is reasonably available during the proceeding, be relevant to the Department's consideration of any appropriate reduction or change in the Company's rates, as guided by our longstanding ratemaking precedent." Scope Order, p. 10. Thus, the Department indicated that some information for the year 2000 might be relevant to the extent that it is relevant to determine what adjustments should be made to the 1999 test year.[3]

Based on the Department's Scope Order, the Attorney General filed testimony and based the resulting revenue requirement recommendation on a 1999 calendar year information, with appropriate post test-year adjustments. While the Attorney General has complied with the Department's directives designating a 1999 test year, Fitchburg has decided to rely primarily on 2000 as its preferred test year for this investigation. In his supplemental testimony, Fitchburg Witness Collin devoted 40 pages of testimony to his proposed 2000 test year, but barely more than one page to the 1999 test year ordered by the Department. Exh. FG&E 2.[4] The Department

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[3] Traditionally the Department has relied on historical test year expense and revenue data, adjusted only for known and measurable changes. D.P.U. 95-118, at 130; D.P.U.1270/1414, at 20. The selection of an historical twelve-month period of operating data as a basis for setting rates is intended to reflect a representative level of a company's revenues and expenses which, when adjusted for known and measurable changes, will serve as a proxy for future operating results. D.P.U. 95-118, at 130. The adjustments made to test year data are referred to as "pro forma" adjustments.

[4] Mr. Collin conceded that the Company had not sought to have the Department reconsider its designation of 1999 as the test year in this case based on the availability of year 2000 data. Tr. 1, p. 94.

should reject the Company's proposal to use a calendar year 2000 test year. As the Department indicated in its Scope Order, year 2000 data is only relevant to the extent that it allows the development of *pro forma* adjustments consistent with Department precedent. *Fitchburg Gas & Electric Light Company*, D.T.E. 98-51, pp. 61-62 (only adjustments to test year expenses are for known and measurable adjustments are permitted), *citing* D.P.U. 92-210, p. 83 and *Dedham Water Company*, D.P.U. 849, pp. 32-34 (1982). Therefore, the Department should disregard the Company's testimony to the extent that it is beyond the scope of this proceeding. *See* Exh. AG-1, p. 1.

B. THE DEPARTMENT SHOULD ADJUST THE COMPANY'S TEST YEAR REVENUES TO INSURE CONSISTENCY WITH THE COMPANY'S COST OF SERVICE

1. INTRODUCTION

A necessary step in finding whether a regulated utility has a revenue deficiency or revenue excess is the determination of the revenue being produced by the rates currently in effect. Like each other area of the rate investigation, the starting point for this determination is the actual revenue earned during the test year, in this case 1999. If there is reason to believe that the actual test year revenue is inconsistent with the method used to calculate the cost of service or that the actual test year revenue is not representative of the revenue that will be earned prospectively, then adjustments must be made to the actual test year revenue for the purpose of determining the revenue deficiency or excess being produced by the current rates. For example, if the cost of service (sometimes referred to as the revenue requirement) includes costs of providing particular services, then the revenues produced by those services should be included in the adjusted test year revenue. Similarly, if there is reason to believe that the revenue during the test year was abnormal or not representative of revenue that would be earned under normal

conditions, the actual test year revenue should be adjusted so that it is reflective of normal conditions.[5]

In the present case there are two issues regarding the determination of test year revenue under present rates: 1) whether actual test year revenues should be adjusted, or "annualized" to reflect the number of customers being served as of the end of the test year; and 2) whether actual test year revenues should be adjusted to reflect the departure of a large industrial customer. In reviewing these two adjustments, the Department should consider whether the adjustment promotes consistency with the determination of the cost of service and whether the adjustment results in adjusted test year revenue that is representative of the revenue that will be earned prospectively under normal conditions.

2. THE DEPARTMENT SHOULD ANNUALIZE TEST YEAR REVENUE TO BE CONSISTENT WITH ITS USE OF TEST-YEAR END RATE BASE

The Attorney General submits that in the context of this proceeding, revenues must be annualized to be consistent with the Department's use of test year end rate base and the other pro forma adjustments that it allows to the cost of service. As Mr. Effron explained, an adjustment to recognize the incremental revenue that would be generated by the customers being served as of the end of the test year is appropriate.

> I have also annualized the Company's 1999 revenue to reflect the end of test-year number of customers. I have calculated this

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[5] "Three classes of expenses are recovered in base rates: (a) annually-recurring expenses, (b) periodically-recurring expenses, and (c) non-recurring expenses." *Fitchburg Gas and Electric Light Company*, D.T.E. 98-51, p. 41 *citing* D.P.U. 1270/1414, at 32-33. "Representative levels of expense that recur on an annual basis are eligible for inclusion in the cost of service. Expenses that do not occur on an annual basis but rather are demonstrated to recur periodically over time will include only the appropriate portion of the expense as representative. Non-recurring expenses are ineligible for inclusion in the cost of service, unless it is demonstrated that they are so extraordinary in nature and amount as to warrant their collection by amortizing them over an appropriate time period." *Massachusetts-American Water Company*, D.P.U. 95-118, pp. 121-122 (1996) *citing* D.P.U. 1270/1414, at 32-33. .

> annualization adjustment as one half of the revenue growth from 1999 to 2000. This adjustment is consistent with the use of an end of year rate base, which reflects the investment necessary to serve the end of year number of customers and with the annualization of depreciation expense based on the end of year plant in service.

Exh. AG-2, pp. 2-3. Since the cost of service includes costs associated with serving customers as of the end of the test year, the revenues generated by those customers should be included in adjusted test year revenues under present rates. In a sense, the adjustment proposed by Mr. Effron is conservative in that some adjustments to the cost of service, such as payroll, medical insurance, inflation allowance, and property taxes extend well beyond the end of the 1999 test year. Exh. FG&E 2, at 1999 Sch. MHC Supp.-8,9,11, and 15, respectively. The revenue annualization adjustment proposed by Mr. Effron is appropriate both as a matter of consistency with determination of the cost of service and as a matter of reflecting the revenue that the present rates will produce prospectively.

Mr. Collin, on behalf of Fitchburg, did not contend that Mr. Effron's proposed revenue annualization adjustment was inappropriate or was inconsistent with the use of an end-of-test-year rate base. Rather, he asserted that there was "no Massachusetts ratemaking precedent" that supports such an adjustment. Exh. FG&E 2, pp. 22-23.

There is no dispute that the annualization of revenues to reflect the end of year number customers is consistent with the use of an end of year rate base and the inclusion of end of year (or later) expenses in the cost of service. Mr. Effron has calculated that annualizing revenues to reflect the end of year number customers increases test year revenues by $192,000. Exh. AG-2, at Exhibit DJE-3, Schedule 2. The quantification of this revenue adjustment was not challenged. Accordingly, the Department should incorporate Mr. Effron's proposed annualization adjustment into the determination of adjusted test year revenue produced by present rates.

3. THE DEPARTMENT SHOULD DENY THE COMPANY'S PROPOSED ADJUSTMENT TO TEST YEAR REVENUES FOR PRINCETON PAPER SINCE THOSE REVENUES HAVE BEEN REPLACED BY THE REVENUES OF OTHER CUSTOMERS

The Company has proposed a *pro forma* adjustment to remove all Princeton Paper revenues from the test year, since Princeton Paper is no longer a customer. This adjustment reduces test year revenue under present rates by $1,297,000. Exh. FG&E 2, p.23. While there is no dispute that actual test year revenue from Princeton Paper was $1,297,000, and that Princeton Paper has left the Fitchburg system since the 1999 test year, the issue at hand is whether the Princeton Paper sales and revenue lost since the 1999 test year will be made up by other customers during the time that the rates established in this case are in effect.[6] The Attorney General submits that the record establishes that the loss in sales associated with Princeton Paper has been more than offset by a new customer at the same site and the sales growth from other Fitchburg customers.

4. THE COMPANY'S PROPOSED ADJUSTMENT FOR PRINCETON PAPER FAILS TO RECOGNIZE THE SALES TO THE NEW OWNER OF THE FACILITY

The Princeton Paper facility has been purchased by another firm that will replace some if not all of Princeton's load. The Unitil Corporation SEC Form 10-Q for the third quarter of 2000 describes the loss of Princeton Paper as a customer: "A major customer curtailed operations in 1999 and rescinded its power contracts in the second quarter of 2000. A new owner has purchased the facility, and has announced plans to retool and resume operations during 2001."

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[6] "[T]he Department must focus on whether, in the period in which these proposed rates are in effect, the rates are designed to produce revenues adequate to cover the Company's recoverable costs, with an allowance for a reasonable return on its rate base." *Edgartown Water Company*, D.P.U. 90-147, p. 6 (1991). *See Western Massachusetts Electric Company*, D.P.U. 88-250, p. 56 (1989) (rates set for an indefinite period).

Exh. AG-IR-1-3, Supplemental, p. 47. This disclosure to investors and potential investors is as notable for what it does not say as for what it does say. There is no indication of a significant loss in sales or revenue as a result of the curtailment of operations by Princeton Paper and purchase of the facility by its new owner - Newark America (Exh. FG&E-2, p.24). The disclosure statement by Unitil management in the SEC Form 10-Q creates the distinct impression that if revenue from the new owner, Newark America, does not completely replace the Princeton Paper revenue loss, it will at least substantially offset the Princeton Paper revenue loss.

The Company's witness, Mr. Collin does not deny that Newark America will be a substantial customer. He testified that Newark America plans to design, construct, and operate two paper machines, with a total load of 7.5-10 MW. Exh. FG&E 2, p. 26. Moreover, with the potential to add substantially to the operations at that site, the load can increase significantly in the future. Yet, Mr. Collin proposes to recognize no revenue from this substantial customer. In other words, the Company is proposing to eliminate all Princeton Paper revenue actually earned during the test year without recognizing any revenue from the customer now owning the Princeton Paper facilities, a customer that Unitil in its SEC filings strongly implied would replace Princeton Paper as a customer. The adjustment should be rejected on this basis alone, however, there is additional evidence showing that Fitchburg will be experiencing sales growth more than adequate to offset the loss of Princeton Paper.

5. THE COMPANY' PROPOSED ADJUSTMENT FOR PRINCETON PAPER REVENUES FAILS TO RECOGNIZE THE ADDITIONAL SALES TO OTHER LARGE CUSTOMERS

The Company while proposing to decrease test year revenues for the loss of one customer, has also failed to recognize the addition of other large customers since the test year in

this case. Besides adding Newark America as a customer, there is ***at least*** one other large customer that will significantly increase annual sales that the Company failed to add to its test year revenues in this case. Since the end of the test year, the City of Fitchburg has constructed and put into operation a regional water filtration facility. Tr. 2, p. 307. This is a completely new facility and is not a replacement to an existing plant. This facility is also expected to expand further during the years 2001 and 2002. *Id.* Mr. Collin agreed that he would generally classify a water filtration facility as a large customer. Tr. 1, p. 126. Therefore, the Company, while proposing to decrease test year revenues for the loss of one customer, has failed to increase those revenues for known and measurable additional sales associated with new customers.

6. THE COMPANY FORECASTS ITS SALES DURING THE RATE YEAR TO EXCEED THOSE DURING THE TEST YEAR EVEN WITH THE LOSS OF PRINCETON PAPER

The Company's own forecasts indicate that the loss of the Princeton Paper load will be more than offset by sales to other customers. In fact, in the 1999 test year, total sales, with Princeton Paper as a customer, were 502 million kWh. Tr. 1, p. 119. The Company is forecasting sales for 2002, which approximates the rate year for this case, of 512 million kWh, without Princeton Paper as a customer. Tr. 1, p. 122. Although Mr. Collin, on cross-examination, disavowed the forecast of sales for 2002, claiming that it has since been revised downward. Tr. 1, p. 123. However, Mr. Collin later admitted that no revision to the sales forecast for 2002 had actually been prepared. Tr. 2, pp. 279-280. Thus, the best available evidence indicates that sales in 2002, without Princeton Paper as a customer, will be higher than actual sales were in the 1999 test year with Princeton Paper as a customer.

In these circumstances, elimination of actual Princeton Paper revenue in the 1999 test year, without any recognition of the revenue from the sales replacing the loss of Princeton Paper,

would distort the determination of the revenue excess being produced by the rates now in effect. Therefore, the Department should reject the Company's proposed adjustment to eliminate the actual test year revenue of Princeton Paper in its entirety. *Western Massachusetts Electric Company*, D.P.U. 85-270, p. 194 (the Department establishes rates designed to recover a reasonably representative level of expenses).

7. THE DEPARTMENT MUST REMOVE THE PRINCETON PAPER DISTRIBUTION TRANSFORMER FROM RATE BASE IF IT ACCEPTS THE COMPANY'S PROPOSED REVENUE ADJUSTMENT REMOVING THOSE REVENUES

The Department should reject the Company's proposed adjustment for Princeton Paper, reducing test year revenues for the reasons discussed *supra*. If, however, the Department accepts the pro forma adjustment to eliminate actual Princeton Paper revenue, then, to be consistent, the cost of providing service to Princeton Paper should also be eliminated from the Company's revenue requirements. Specifically, in 1999, the Company placed in service a distribution transformer costing $875,184 dedicated to serving Princeton Paper. Exh. AG-IR-5-13, Att. p.1, p.12; Tr. 1, p. 125. As that facility was installed to serve Princeton Paper, if Princeton Paper is not a customer and the Princeton Paper revenue is eliminated, then the transformer is not used and useful in providing utility service. *See e.g., Hutchinson Water Company*, D.P.U. 85-194, at pp. 8-9 (1986). The plant in service of $875,184 should then be removed from rate base, and the depreciation on the plant, $27,043 should be eliminated from test year expenses.

C. RATE BASE

The rate base is the investment by the utility company in the facilities and related items necessary to provide utility service. The authorized rate of return is applied to the rate base to determine the return on investment component that goes into the total revenue requirement. In

the present case there are two issues in the calculation of the Company's rate base: 1) the cash working capital allowance that should be included in the total rate base; and 2) the balance of accumulated deferred income taxes that is deducted from plant in service in the calculation of rate base.

1. CASH WORKING CAPITAL ALLOWANCE

The Company requires cash working capital to pay for its operation and maintenance expenses. This cash working capital is provided either through funds internally generated by the company (i.e., retained earnings) or through short-term borrowing. *Boston Gas Company*, D.P.U. 93-60, at 47. The Department has recognized that there typically will be a difference in time between when a utility incurs costs to provide service to customers and the time when the utility collects cash from customers in payment for those services. *Commonwealth Electric Company*, D.P.U. 89-114/90-331/91-80, at 10.

> The time lag involves two components: (1) the number of days between the delivery of electric service by the Company and the receipt of payment from customers ("lag days"); and (2) the number of days taken by the Company to pay its O&M expenses ("lead days"). Id. The difference is the net lag. The net lag is then applied to annual O&M expenses to determine the average amount of working capital the Company must have on hand to cover any lag in recovery of revenues for services rendered. This reimbursement is accomplished by adding a cash working capital component to the Company's rate base computation. D.P.U. 93-60, at 47-48.

Massachusetts Electric Company, D.P.U. 95-40, pp. 11-12 (1995). The Department has traditionally relied on a 45-day convention for the calculation of cash working capital. *Boston Gas Company*, D.P.U. 88-67, Phase I, pp. 32-33 (1988). However, the Department "has encouraged parties in Department proceedings to consider and offer alternatives of a period less than the 45-day convention, with supporting justification." *Massachusetts Electric Company*,

D.P.U. 95-40, p. 12, citing D.P.U. 93-60.

In the present case, Fitchburg has calculated its cash working capital allowance based on 1/8 of annual operation and maintenance expense, equivalent to approximately 45 days of expenses. This formula implicitly assumes that there is a 45 day lag between the time that a utility company pays for expenses that it has incurred and the time that it receives cash from customers to pay for those expenses. However, Fitchburg has offered no substantive defense of its use of the 45-day convention, only noting that the Department has not yet done away with this convention. Exh. FG&E-2, p. 21.

The Attorney General proposed calculation of the cash working capital allowance contains two differences from the Company's. First, Attorney General proposes that the lag days used to calculate the cash working capital allowance be modified. Second, the transmission expenses should be eliminated from the base of expenses to which the lag factor is applied.

The lag days used to determine the cash working capital allowance overstates the lag days for the Company's expenses. Mr. Effron explained that the 45-day lag should be modified:

> The Company has used a lag of 45 days, which translates into a factor of 12.33%. As noted by the Company in its response to AG-4-10, in D.T.E. 98-51, the Department expressed concern over the 45-day convention. I am also concerned about the reliability of this convention and believe it should be modified. For example, if a particular expense item has a lag in payment of 15 days, it cannot have the same cash working capital requirement as another expense item equal in dollar amount, but with a lag in payment of 40 days.

Exh. AG-2, p. 11. Mr. Effron then described how the lag factor used to calculate the cash working capital allowance should be modified:

> Ideally, the cash working capital allowance should be based on a complete lead-lag study that addresses the lag in collection of revenue and the lag in payment of all expenses. However, as the

> Company further noted in the response to AG-4-10, such a study can be quite time consuming, and the schedule in this proceeding does not allow time for such a detailed analysis.
>
> In the absence of such a complete study, I recommend that O&M be divided into two categories: 1) wages and salaries and 2) all other. For wages and salaries, I recommend a net lag in collection of 35 days. For O&M other than wages and salaries, I recommend a net lag in collection of 15 days.

Id., p. 12. These modifications properly recognize that different expenses have different lags and properly allow for the net lag in payment between the payment of those expenses and the collection of revenues to cover those expenses.

Mr. Collin, on cross-examination, agreed that different expenses have different payment patterns and acknowledged that the Company itself had not applied the 45-day lag to all expenses without exception. Tr. 1, pp. 102-103. Mr. Collin also agreed that the Department has acknowledged that modification to the 45-day formula is "desirable" (Exh. FG&E 2, p. 21), and on cross-examination he concurred that it had not been the practice to apply the 45-day convention blindly (Tr. 1, p. 102). Nowhere did Mr. Collin state that 45 days is a better measure of the actual lag between the payment of expenses and the receipt of revenues than the lags proposed by Mr. Effron.

The net 35-day lag for wages and salaries and the net 10-day lag for other operation and maintenance expense are reasonable estimates of the lags between the payment of expenses and the receipt of revenues. Fitchburg has offered no evidence to the contrary. Accordingly, the Department should employ these lags in calculating the cash working allowance.

The Department should also modify the expense base to which the lag factors are applied. As Mr. Effron testified:

> The Company has included transmission O&M and A&G expense

> not applicable to distribution in the O&M base. As we are addressing the distribution cost of service, only the distribution O&M should be included in the O&M base used to determine the cash working capital allowance. On my Schedule 4, Page 2, I have used $6,142,000 as the O&M base for the cash working capital allowance. This is the pro forma distribution O&M for the test year, as shown on Schedule 3, Page 1.

Exh. AG-2, p. 11

The Company's witness, Mr. Collin agreed that the expenses related to the internal transmission function should be removed from the working capital allowance. Exh. FG&E 2, p. 19. However, he testified that expenses related to the external transmission function should be included in the working capital allowance. Id., pp. 19-20. His position is that external transmission is a distribution responsibility. Id., p. 19. However, the Company presented no argument whatsoever as to why the 45-day lag that it proposes is appropriate for external transmission expenses.

The rationale for including external transmission expenses in the distribution cash working capital allowance is substantially the same as the rationale for including purchased power expenses in the distribution cash working capital allowance. (Compare, for example, Exh. FGE-2, p. 18, ll. 12-19 and Exh. FGE-2, p. 19, l. 18-p. 20, l. 20). Again, the Company provided no basis for establishing the use of the 45 day lag for external transmission expense nor did it provide any basis for a lag that differs from the purchased power lag. Therefore, if external transmission expense is included in the cash working capital allowance, the lag assigned to this expense should be 6.8 days, the same as the lag assigned to purchased power expense, not the 45 days used by the Company.[7]

[7] It should be noted that according to the Company's External Transmission Charge Tariff, M.D.T.E. No. 35, the rate charged customers is based on a forecast of transmission costs and as such may

Finally, the cash working capital associated with administrative and general expense should follow the treatment of the direct functional expenses. Thus, administrative and general expense related to the internal transmission function should be excluded from the cash working capital allowance, and administrative and general expense related to the external transmission function should be included in the cash working capital allowance only if the external transmission expense itself is included, and then with the same lag.

2. THE DEPARTMENT SHOULD ALLOCATE THE COMPANY'S ACCUMULATED DEFERRED INCOME TAX BALANCE BASED ON THE NET PLANT IN RATE BASE

The only issue with regard to accumulated deferred income taxes is the allocation between the transmission and distribution functions. The balance of accumulated deferred income taxes is used as a reduction to rate base, offsetting the Company's other investment in utility operations. The Department should allocated these items using plant in service net of accumulated depreciation. Mr. Effron explained the basis for this allocation:

> The allocation between transmission and distribution should be based on plant in service net of accumulated depreciation ("net plant"), rather than gross plant. The accumulated deferred income taxes represent the difference between the net book basis of plant and net tax basis of plant times the tax rate. As such, the accumulated deferred income taxes would be more closely related to net plant balances than to gross plant balances.

Exh. AG-2, p. 13.

Fitchburg, on the other hand, allocated its balance of accumulated deferred income taxes between transmission and distribution based on gross plant. Exh. FGE-2, p. 17. The only reason that the Company gave to reject the allocation based on net plant is that such allocations are

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have a negative working capital requirement.

inconsistent with the "FERC allocation methodology". Exh. FG&E 2, p. 17. However, the Company did not provide any documentation to support this assertion. Tr. 1, p. 96. Therefore, the record only supports the use of the Attorney General's proposed allocation methodology. The Department should use the net plant allocation factor to allocate accumulated deferred income taxes between transmission and distribution, since it more accurately allocates those liabilities then the use of the gross plant allocator.[8]

D. OPERATING EXPENSES

Test year operating expenses plus the return on investment comprise the total revenue requirement. The starting point for operating expenses is the actual expenses that were incurred during the test year. The actual expenses are then adjusted, as necessary so that such expenses are reflective of normal operations, representative of expenses that will be incurred prospectively, and internally consistent with the other elements of the calculation of the revenue excess or deficiency. Several issues arose in this proceeding regarding the determination of pro forma operating expenses.

1. THE COMPANY HAS PROVIDED NO ARGUMENT THAT SHOULD CAUSE THE DEPARTMENT TO CHANGE ITS PRECEDENT REGARDING THE PRO FORMA BAD DEBT EXPENSE TO BE USED TO DETERMINE COST OF SERVICE

The Department precedent on the calculation of bad debt or uncollectible expense is well established. *Fitchburg Gas & Electric Light Company*, D.T.E. 98-51, pp. 49-51 (1998); *Boston Gas Company 96-50 (Phase I)*, pp. 70-71 (1996); *Commonwealth Electric Company*, D.P.U. 89-114/90-331/91-80, pp. 137-140 (1991). The Department has found that

[8] If fact, Mr. Collin agreed that the allocation method proposed by Mr. Effron "isn't unreasonable." Id., p. 96-97.

> [t]o determine the amount of uncollectible, a company performs a calculation that includes averaging the most recent three years' net writeoffs and applying the average to determine the percentage of [weather] adjusted test-year revenues it represents, i.e. the uncollectible ratio.

D.P.U. 96-50 (Phase I) at 70-71; D.P.U. 90-121, at 96-97; Western Massachusetts Electric Company, D.P.U. 84-25, at 113-114 (1984). The Company provided no argument or evidence in this case that should cause the Department to deviate from this precedent.

The Attorney General's witness, Mr. Effron proposed a pro forma adjustment to test year bad debt expense that conforms to the Department's requirements. Exh. AG-3. He applied the three-year average write-off rate of 0.005508% (from Exh. FGE-2, at 2000 Sch. MHC Supp-10) to the 1999 test year revenue, calculating an adjustment of $132,000 to 1999 test year expenses. Exh. AG-3.

There are numerous problems with the bad debt expense adjustment proposed by the Company. In his supplemental testimony, Mr. Collin raised an issue with regard to the normalized bad debt expense to be included in the cost of service. He proposed a pro forma adjustment to bad debt expense that consists of applying the three-year average net write-off ratio to the test year revenue adjusted for increases in standard offer service and default service revenue expected to take place in 2001. Exh. FG&E 2, pp. 31-32. The supporting information for the net write-off ratios used by Mr. Collin is incomplete. On re-direct examination Mr. Collin referred to AG-IR-1-69 as providing support for the write-off ratios he used in calculating his pro forma adjustments to bad debt expense. Tr.2, pp. 280-281. However, reference to that document indicates no supporting information for 1997, which Mr. Collin included in developing his average ratio for the 1999 test year. Exh. FGE-2, at 1999 Sch. MHC Supp-10. This observation is particularly noteworthy, given that the net write-offs experienced in 1997

were clearly out of line with the net write-offs experienced in the other years used in Mr. Collin's analysis. Exh. FGE-2, at 1999 Sch. MHC Supp-10 and 2000 Sch. MHC Supp-10. Mr. Collin also included revenue that wouldn't be earned until 2001 in the 1999 revenue base to which the write-off ratio was applied. Tr. 1, p. 113. Even assuming that such projections of revenue are known and measurable (which they obviously are not), the inclusion of such projected revenues in a 1999 test year solely for the purpose of calculating pro forma bad debt expense is an obvious mismatch that should not be allowed. In addition, Mr. Collin failed to adjust the revenue used as the base for the bad debt expense calculation so that it is consistent with the proposed test year revenue itself. Tr. 1, pp. 133-134. The Department should accept Mr. Effron's bad debt expense adjustment.

2. THE COMPANY HAS NOT PROVIDED ANY NEW ARGUMENT OR EVIDENCE THAT REQUIRES THE DEPARTMENT TO DEVIATE FROM ITS LONG-STANDING PRECEDENT REGARDING RATE CASE EXPENSE

The Department's precedent in determining the amount of rate case expense to be included in the cost of service is well-established. *Fitchburg Gas & Electric Light Company*, D.T.E. 98-51, pp. 53-62 (1998); *Nantucket Electric Company*, D.P.U. 91-106/138, p. 20 (1991); and *The Berkshire Gas Company*, D.P.U. 1490, pp. 33-34 (1983).

> The Department's practice in determining the amount of rate case expense to include in base rates is to normalize these costs so that a representative annual amount is included in the cost of service. Normalization is not intended to ensure dollar-for-dollar recovery of a particular expense; rather, it is intended to include a representative annual level of rate case expense. In accordance with this precedent, the Department determines the appropriate period for the recovery of rate case expenses by taking the average of the intervals between the filing dates of a company's last four rate cases (including the present case), rounded to the nearest whole number.

Id. [Cites omitted]. The Company has provided no argument that should cause the Department

to deviate from this well found precedent

Mr. Collin calculated this adjustment by amortizing the estimated rate case expense of $400,000 over three years. Exh. FG&E 2, pp. 34-37. However, Mr. Effron proposed an alternative pro forma adjustment that amortizes estimated rate case expense over five years. Exh. AG-3. Mr. Effron's adjustment is actually conservative in that the Company's last full rate case was about sixteen years ago. Tr. 1, p.136. Rate case expense should be amortized over the expected period between rate cases. The use of a shorter amortization period would result in an over-collection of costs by the utility company, as the collection in rates would continue even after the costs are fully recovered. Given Fitchburg's actual experience regarding base electric rate applications, it is more appropriate to use five-year amortization period than a three-year amortization period.

3. INFLATION ALLOWANCE

The Department allows utilities to include an inflation allowance in the pro forma cost of service that is used to determine base rates. The inflation allowance is determined by multiplying an inflation factor, the expected rate of inflation from the midpoint of the test year to the midpoint of the rate year, by the amount of test year operation and maintenance expense, excluding those expenses that are either adjusted for elsewhere in the cost of service or those expenses that are not effected by inflation during that period. *See e.g.*, D.T.E. 98-51, pp. 100-103 (1998).

The Company and the Attorney General differ on the appropriate adjustment to allow for inflation from the historic test year to the rate year. Comparing Exhibit FG&E 2 at 1999 Sch. MHC Supp-11, Page 1 to Exhibit AG-2 at DJE-3 Schedule 3, Page 2, it can be seen that the

major reason[9] for the difference concerns the issue of whether outside services should be included in the base to which percentage inflation allowance is applied.

Based on the experience in recent years, outside services expense has not varied with inflation. As Mr. Effron testified, for the years 1997 – 2000, the outside services expense[10] fluctuated in a way that shows no relationship to inflation. Tr. 1, pp 41-42. Most importantly, the outside services expense declined from 1999 to 2000. *Id.*, p.42. Not only did the total outside services expense decline from 1999, the outside services expense attributable to the distribution function declined from $2.6 million in 1999 to $2.2 million in 2000. Exh. AG-IR-2-8-2, Attachment, Page 1. If the purpose of the inflation allowance is to adjust test year expenses for escalation taking place between the test year and the rate year, it is inappropriate to subject expenses to such escalation that the record demonstrates have in fact decreased from the test year. Outside services is such an expense. An adjustment for inflation should not be applied to escalate 1999 outside services expense for inflation when outside services expense has actually declined from $2.6 million in 1999 to $2.2 million in 2000. In determining pro forma operation and maintenance expense, 1999 test year outside services expense of $2,620,000 should be excluded from the base of expenses that is escalated for inflation.

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[9] The expected date on which the rate year begins is also an issue for the purpose of this adjustment. Mr. Effron assumed a rate year beginning September 1, 2001. Mr. Collin assumed a rate year beginning December 1, 2001. This issue should be resolved when the Department issues its order in this case. The only other difference, the inclusion of benefits other than health insurance and pensions in the base, is relatively immaterial.

[10] The outside services expenses put into the record by Mr. Effron (Tr. 1, p. 42) encompass all outside services expenses booked by Fitchburg, including expenses unrelated to distribution. The outside services expenses included in the cost of service in this case are only the outside services expenses related to the distribution function.

4. RECLASSIFICATION OF 1998 EXPENSES

During the test year the Company reclassified $74,000 of 1998 Independent System Operator expenses and $127,000 of 1998 System Control and Load Dispatch expenses from transmission expense to distribution expense. Exh. AG-3 and Exh. AG-IR-5-5. Mr. Effron proposed to eliminate these expenses from the 1999 test year as out-of-period, non-recurring expenses. Exh. AG-3.

Mr. Collin opposed this adjustment, asserting that the reclassified expenses were never included in the distribution cost of service in the first place. Tr.2, pp. 283-285. However, Mr. Collin failed to demonstrate how the items, which are shown as "Reclassed to Distribution Expense in April 1999" (Exh. AG-IR-5-5) are, in fact, excluded from test year distribution operation and maintenance expense. Nevertheless, to the extent that the Company demonstrates that these expenses have not been included in test year distribution operation and maintenance expense, the Attorney General agrees that no adjustment is necessary to reduce test year expenses for these reclassifications.

5. DEPRECIATION EXPENSE

Fitchburg's cost of service witness included in his determination of the Company's pro forma revenue requirements an adjustment to reflect new depreciation accrual rates for distribution plant. Exh. FG&E-2, pp. 39-42. The new accrual rates increase the pro forma cost of service by $659,000. Exh. AG-4. However, the Attorney General submits that, based on the record evidence, it is not appropriate to change the Company's depreciation accrual rates at this time.

The evidence in the record does not support the Company's proposed depreciation expense adjustment. First, there was no opportunity to conduct discovery and cross-examination

of an expert witness regarding the account-by-account detail of the depreciation study, including the methodology and assumptions underlying the analysis. The Company's study, by itself cannot provide sufficient evidence for the Department to change the Company's depreciation rates. *See, e.g.* D.T.E. 98-51, pp. 69-97. Second, as the Attorney General established on cross-examination, there are problems with the Company's proposed depreciation accrual rates that would cause annual depreciation expense to be greater than the current underlying net book value of the plant.[11] Finally, the Company's witness, Mr. Collin testified that the Company would not change its depreciation accrual rates until the implementation of performance based rates. Exh. FG&E 2, p. 46. Therefore, given the deficiency of record evidence and the Company's claimed intent not to increase depreciation rates at this time, the Department should postpone any changes in depreciation accrual rates at this time.

6. ALLOCATIONS

In addition to accumulated deferred income taxes, addressed above, property taxes, and the FAS 109 component of income taxes must also be allocated between transmission and distribution. To be internally consistent, the allocation factor used to allocate accumulated deferred income taxes should also be used to allocate property taxes and the FAS 109 component of income taxes.

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[11] For example, during the hearings, it was established that, pursuant to the proposed depreciation rates, the depreciation expense on Account 373 – Street Lighting and Signal Systems, $217,000, would be greater than the net book value of the assets in that account, $213,000. Tr. 1, pp. 139-140. Mr. Collin initially agreed that such a result is not reasonable. Id., p. 140. Mr. Collin later explained that the new depreciation rate on Account 373 is appropriate because it takes into account the recovery of the cost of removal. Tr. 2, p. 282. However, Mr. Collin neglected to explain why it was appropriate to depreciate this account down to a negative value while assets in this account are still on the books and providing utility service.

7. RELATED ISSUES FROM DOCKET 99-110

The Department has not issued its final order in the Company's Transition Charge Reconciliation case – D.T.E. 99-110. The Department's findings in that case may effect the treatment of certain costs and investments in this case. The Company's witness, Mr. Collin asserted in his direct testimony that there are matters pending in D.T.E. 99-110 whose resolution will affect the treatment of certain issues in this case. Exh. FG&E-1, p. 29. In particular, Mr. Collin testified that if the Department in D.T.E. 99-110 accepts the Attorney General's position regarding (1) the FAS 109 regulatory asset; (2) the divestiture related administrative and general transaction costs; and (3) the supply management administrative costs, the resolution of those issues in D.T.E. 99-110 would have to be factored into the revenue requirement calculation in this case. Tr. 2, p. 242. As will be discussed below, Mr. Collin's statements regarding each issue are incorrect.

The resolution of the FAS 109 regulatory asset issue in D.T.E. 99-110 could affect the revenue requirement calculation in this case, but not if the Department accepts the Attorney General's position in D.T.E. 99-110. In this case, none of the FAS 109 regulatory asset is deemed to be allocable to generation. The total company balance of accumulated deferred income taxes is developed in Exh. AG-IR-2-6 9(c). In this exhibit, the total electric net FAS 109 regulatory asset[12] is included in the net electric accumulated deferred tax balance of $9,273,651, which is the starting point for the allocation of the electric accumulated deferred tax balance in

[12] The total FAS 109 regulatory asset of $12,090,000 in Exh. AG-IR-2-6(c) ties to the FAS 109 regulatory asset in the FG&E 1999 Form 1, as does the total FAS 109 regulatory liability of $(4,394,000.) in Exh. AG-IR-2-6(c).

Exhibit FG&E-6. There is no allocation of the FAS 109 regulatory asset to generation,[13] as can be seen in Exhibit FG&E-6, Attachment AG-RR-1-1, Pages 1 and 2. This is consistent with the Attorney General position in D.T.E. 99-110. Therefore, if the Department accepts the Attorney General position on FAS 109 in D.T.E. 99-110, no adjustment is necessary in this case. However, if the Department accepts the Fitchburg position on FAS 109 in D.T.E. 99-110, then the balance of accumulated deferred income taxes deducted from plant in service in this case must be increased by $762,000, the FAS 109 regulatory asset allocated by the Company to generation as of December 31, 1999 in D.T.E. 99-110.

The divestiture related administrative and general transaction costs referred to by Mr. Collin were incurred in the years 1997-1999. Tr. 2, p. 267. Thus, these costs are not expenses associated with providing electric distribution service during the rate year. Rather, these are retroactive expenses that the Company deferred on its books of account without any authorization by the Department. Tr. 2, p.268.[14] The Department's resolution of the $2.1 million "in dispute" in D.T.E. 99-110 should have absolutely no bearing on this case, as this $2.1 million is unrelated to the provision of electric distribution service in the rate year. The Attorney General would agree that if the Department accepts the Attorney General's position on the treatment of these costs in D.T.E. 99-110 **and** the Company continues to incur similar expenses prospectively, it would be appropriate to include the normal, ongoing level of such expenses in the cost of service. However, the Company has not provided any estimate of the level of such

[13] There is a deferred tax item of $(269,000) designated as "Generation Related Regulatory Asset". However, this is the deferred tax balance related to regulatory assets, including FAS 109, not the regulatory asset itself.

[14] In addition, these costs were deferred at a time when Fitchburg was earning a return on equity in the range of 18% - 21%. Exh. AG-1, at DJE-1, Page 1.

expense that will continue to be incurred on an annual basis or any evidence that the ongoing level of such expenses is material. Tr. 2, pp. 268-269.

The issue regarding the supply management administrative costs is similar to the issue of the divestiture related administrative and general transaction costs. The amount of $1.8 million cited by Mr. Collin as being "in dispute" is the deferred balance of costs that were incurred in the 1997-1999 time frame. Tr. 2, p. 269. Again, these are retroactive expenses that the Company deferred on its books of account without any authorization by the Department. Id. Therefore, the Department's resolution of the $1.8 million "in dispute" in D.T.E. 99-110 has no bearing on this case, as this $1.8 million is unrelated to the provision of electric distribution service in the rate year. With regard to the supply management administrative costs, the Attorney General would also agree that if the Department accepts the Attorney General's position on the treatment of these costs in D.T.E. 99-110 **and** the Company continues to incur similar expenses on an annual basis, it would be appropriate to include the normal, ongoing level of such expenses in the cost of service. However, once again, the Company has not provided any estimate of the level of such expense that will be incurred prospectively or any evidence that the ongoing level of such expenses is material. Tr. 2, p. 270.

E. COST OF EQUITY

1. INTRODUCTION

The cost of service includes a return on rate base which provides Fitchburg's investors a return on the net investment that they have made in its utility business. Exh. AG-2, Exhibit DJE-3, Schedule 4, p.1. The return compensates the debt holders, the preferred stockholders, and the

common stockholders for their investments in the Company's electric distribution business.[15] Exh. AG-2, Exhibit DJE-3, Schedule 5. The dollar amount of the return is determined by multiplying the dollar amount of the rate base by the overall cost rate of these different costs of capital weighted by the amount outstanding of each. *Id*.

The Company sponsored the testimony of Mr. Samuel C. Hadaway regarding its cost of common equity. Exh. FGE-4. As will be discussed below, there many flaws with his analyses that overstate the Company's cost of common equity. Most important, however, is Mr. Hadaway misunderstands of the purpose of these proceedings and the risk and expected returns on an electric distribution service company.

2. MR. HADAWAYS'S RISK ANALYSIS MISSTATES THE INVESTMENT RISKS ASSOCIATED WITH THE PROVISION OF DISTRIBUTION SERVICE

The cost of the Company's common equity is not readily measurable in the manner that its costs of debt and preferred stock are. Exh. FGE-4, p. 5. Since Fitchburg's common stock is held by its parent corporation Unitil Corporation, it is impossible to determine the market cost of equity for the Company's stock using any market approach.[16] Therefore, Mr. Hadaway performed his analysis on a group of companies that he deemed comparable to the Company (the "comparison group"). Tr. 3, p. 25.

Mr. Hadaway discusses the various risks of different investments in the electric industry in an attempt to bias his recommendation upward. Exh. FG&E-4, pp. 19-23. He describes the risks of the California market that is currently in an energy crisis, the risk of deregulation, open

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[15] The parties appear to agree on the Company's costs of debt and preferred equity in this case.

[16] Since Fitchburg is comprised of both a gas as well as an electric division, it has a blended cost of common equity for both divisions, further complicating a direct analysis of the cost of equity of the business at issue in this case.

access to the transmission grid, and "increased competition in the electric industry." *Id*. The fact is, however, that investment in Fitchburg's electric distribution service has nothing to do with **any** of these risks. While these risks may be applicable to vertically integrated electric utilities in California, they are totally inappropriate for the Company's electric distribution business. Therefore, Mr. Hadaway's DCF analysis, which uses a comparison group of vertically integrated electric companies which include the "risky" generation and transmission businesses, overstate the cost of equity for Fitchburg's electric distribution business.

The Department has recognized the lower risk of the standalone electric distribution business. *Massachusetts Electric Company*, D.P.U. 95-40, pp. 95-96 (1995). In D.P.U. 95-40, the Department found that a distribution company has less risk (and thus a lower required return) than utilities that have generation and non-utility subsidiaries. *Id*. Therefore, the Department should also find that Mr. Hadaway's DCF cost of equity analyses, that depends on a broad group of vertically integrated electric companies that have generation as well as non-utility subsidiaries, overstates the cost of common equity for Fitchburg.[17]

3. DISCOUNTED CASH FLOW ANALYSIS

Mr. Hadaway performed a discounted cash flow ("DCF") analysis of the comparison group. Exh. FGE-4, pp. 13-16 and Exh. AG-6-15. As was discussed *supra*, the investment risk of his comparison group of integrated electric utility companies is greater than that of the Company's distribution business. Therefore, Mr. Hadaway's DCF cost of equity results are all biased upward. Notwithstanding this fact, there are still other critical flaws in Mr. Hadaway's DCF analyses.

[17] The electric companies in the comparison group have affiliates whose operations include (1) unregulated generation; (2) generation marketing; and (3) gas distribution.

The theory underlying the DCF analysis is that the market price that an investor is willing to pay for a share of common stock is equal to the present value of the cash dividends and the proceeds from the sale of the investment when the investor divests those shares. Tr. 2, pp. 175-176. Mr. Hadaway used three different DCF approaches to estimate the cost of equity for the comparison group. Exh. FG&E-4, pp. 12-16. Each will be discussed below.

a. Constant Growth

One approach to the DCF analysis is to assume that the growth in dividends per share is constant over time (the "constant growth rate model"). *Id*., pp. 12-13. The DCF theory can be modeled then by the following equation:

$$k = \frac{D_1}{P_0} + g$$

where k = the investors' required return on common equity;
D_1 = the dividend per share paid in the next period;
P_0 = the current market price per share of the common stock; and
g = the investors' mean expected long-run growth rate in dividends paid per share.

Id., pp. 12-13.

Some of the components of the model are easily measured such as the current price per share and the current dividend paid. *Id*., p. 12. However, the investors' expectations of the growth in dividends over the next year and over the rest of the investors' holding period are not directly measurable. *Id*. Since it is impractical to measure all of the investors' expectations regarding their growth rate estimates, it is necessary to use a proxy for those expectations. These proxies include historical and forecasted measures of the dividends, earnings, and book value per share growth rates as well as the growth from retained earnings. Exh. AG-6-13 and Exh. AG-6-14.

Mr. Hadaway applied this analysis by taking the average of three different proxies for the

growth rate. Exh. AG-6-15, p. 2. He used Zack's five-year earnings per share growth rate of 6.73 percent, the *Value Line Investment Survey's* three to five-year earnings per share growth rate of 6.25 percent, and a measure of growth from retained earnings calculated from *Value Line* of 6.11 percent. *Id*. These growth rates resulted in an average growth rate estimate of 6.36 percent. *Id*.

These short-run forecasts of growth rates that Mr. Hadaway uses all appear to be relatively too high to be representative of a long-run sustainable growth in electric utility stocks. Compared to the growth rate in Gross Domestic Product which has been around 5.5 percent recently (see Exh. AG-6-3) and the average ten-year historical growth rate in earnings per share, dividends per share, and book value per share which have all been around 1.1 percent to 1.7 percent (see Exh. AG-6-13 and AG-6-14), Mr. Hadaway's average estimate of 6.36 percent is well above what has been experienced in the past and can be expected to be delivered in the future. For these reasons, the Attorney General recommends that the Department give significantly less weight to the results of Mr. Hadaway's Constant Growth Rate DCF results.

b. Terminal Value DCF

The second approach that Mr. Hadaway used is his Terminal Value Approach. This DCF approach assumes that the investor holds the investment for a certain number of years and then sells the investment at a certain price. Exh. FGE-4, p. 14. In this case, Mr. Hadaway assumed that investors held the stock for three to four years and then sold the stock at the end of the last year. Exh. AG-6-15, p. 3.

Mr. Hadaway relied heavily on *Value Line Investment Survey* for his estimates of investors' expectations for each of the companies in his comparison group. *Id*. Specifically, he derived from *Value Line's* data an estimate of the dividends per share paid for each of the

intermittent years as well as a price per share of the stock in the last year. *Id*. Here again, Mr. Hadaway has attempted to derive a figure, the price per share in the fourth year, for which *Value Line* already provides a specific estimate. See Exh. AG-6-13.

Mr. Hadaway derives the last year price by taking the current price to earnings ratio and multiplying it by the forecasted earnings per share for the period 2003 to 2006. Exh. AG-6-15, p. 3. This approach would be appropriate if one assumed that the price earnings ratio were constant over time. Tr. 2, pp. 188-189. It is clear however, that this is not Value Line's forecast. *Id*. and Exh. AG-6-13. Mr. Hadaway's rejection of the lower price-earnings is nothing more than an attempt to pick and choose his way around the Value Line numbers in order to bias his results upwards. The only way to correctly use Value Line's forecast for dividends per share, earnings per share and price per share is to use the forecasted price - earnings ratio already provided by Value Line for the period 2003 to 2006 and multiply that ratio by Value Line's earnings per share estimate for the same period. Exh. AG-6-13. Mr. Hadaway prepared an exhibit providing the calculation to make his analysis using all of the Value Line growth projections and price earnings ratios that are consistent. Exh. RR-AG-4. This methodology ensures that the use of these forecasts is logical and internally consistent. *See* D.T.E. 98-51, pp. 121-122.

Mr. Hadaway's mis-specification of the estimated future price per share causes a gross inflation of the cost of equity estimate. His picking and choosing of growth rate estimates in this case raises his results by over 140 basis points. Compare Exh. AG-6-15, p. 3 with Exh. RR-AG-4. Therefore, the Department should reject his proposed application of the Terminal Value Approach and instead use the one that consistently applies the forecasts to the model. *Id*.

c. Non-Constant Growth Rate DCF

The third DCF approach that Mr. Hadaway uses is the Non-Constant Growth Rate approach. Exh. FG&E-4, pp. 15-16. This model is based on the assumption that there is some short-term growth rate in dividends per share that investors expect, followed by a different growth rates that are expected for periods thereafter. *Id*. Here, Mr. Hadaway uses the following model.

$$P_0 = D_0(1+g_1)/(1+k) + \ldots + D_0(1+g_2)^n/(1+k)^n + \ldots + D_0(1+gT)^{(T+1)}/(k-g_T)$$

Mr. Hadaway started by using the same average forecasted earnings per share growth rate of 6.36% he used to determine the Constant growth rate DCF, for the first five years of the this approach. Exh. AG-6-15, p. 4. After the first five years Mr. Hadaway assumes that growth will move towards the long-run growth rates which remain constant after year ten. *Id*. The long-run growth rate of 6.5% was based on the average of the growth rate in the first five years and the expected growth rate in the Standard & Poor's 500 earnings. *Id*.

Mr. Hadaway provided no support for his inventive creation of a long-run growth rate for his comparison group. Clearly, his "apples and oranges" mixing of the forecasted short-run earnings per share for electric companies with the long-run eamings per share for the Standard & Poor's 500 has no basis in theory or practice. Neither make any sense as estimates for the long-run growth rate for an electric company.

A utility company cannot expect continuously to grow faster than the economy as a whole. As Mr. Hadaway indicates, the average nominal growth rate in the economy during the last eleven years of robust growth has been 5.57 percent. Tr. 2, pp. 167-168. Since an electric

utility cannot sustain, in the long-run, a level of growth higher than that of the economy, then the utility's long-run growth rates should conservatively be capped at 5.57 percent. Mr. Hadaway re-ran his Non-Constant Growth Rate DCF analysis for his comparison group of electric companies using the 5.57 percent as the long-run growth rate for the period after 10 years, resulting in a cost of equity of 10.8 percent. Exh. RR-AG-5. This Non-Constant Growth Rate DCF analysis for his comparison group provides a more internally consistent and logical basis for determining the cost of equity for an electric company.

4. DISCOUNTED CASH FLOW ANALYSIS SUMMARY AND RECOMMENDATION

The Department should reject the DCF analyses as proposed by Mr. Hadaway. His applications of the DCF approaches are based on inconsistent and illogical choices of model elements that in each case bias his results upward, causing his cost of equity results to be grossly inflated. Instead, the Department should base its decision on those analyses that are applied consistently, without the picking and choosing of elements that inflate the results. Using the appropriate elements to each DCF approach the appropriate cost of equity estimates are as follows:

	Average
Constant Growth DCF	11.5%
Terminal Value DCF	9.9%
Non-Constant Growth Rate DCF	10.8%

See Exh. AG-6-15, p. 2; Exh. RR-AG-4, and Exh. RR-AG-5, respectively.

Thus, a range of rates form 9.9 percent to 11.5 percent provides a reasonable basis (with

appropriate adjustments discussed *infra* for the Department's decision on the Company's cost of equity.

5. RISK PREMIUM

Mr. Hadaway performed several risk premium analyses as a check on the results. Exh. FGE-4, pp. 25-29. The risk premium approach is based on the assumption that investors require a higher return on their investment for them to hold assets of greater risk. Exh. FGE-4, pp. 6-7. In each of his applications of the risk premium, Mr. Hadaway has mis-specified the risk premium, causing his results to be either meaningless or inappropriate for determining the cost of equity for Fitchburg.

a. The "Authorized ROE" Risk Premium

Mr. Hadaway provides a risk premium analysis based on the "authorized ROE" of various electric companies. Exh. FGE-4, pp. 25-27 and Exh. FGE-4, Schedule 5. He determined the risk premium by taking the 21-year average of the difference between the returns on common equity ordered by utility commissions in each year and the average public utility bond yield for that same year. *Id*. Both of these elements of the risk premium have flaws that cause the risk premium analysis to be meaningless.

The bond yield that Mr. Hadaway uses is Moody's Average Public Utility Bond Yield. *See* Exh. AG-6-8 citing AG-6-1. Although average yield does include some electric distribution companies, it also includes both gas and and telephone companies. Exh. AG-6-1. Therefore, the Department should reject Mr. Hadaway's risk premium analysis since the debt component used to determine his risk premium represents all utilities and not electric distribution utilities. *See Boston Edison Company*, D.P.U. 1350, p. 169 (1983).

The "authorized ROE" that Mr. Hadaway uses to determine his risk premium is an

inappropriate measure of investors cost of equity expectations. The underlying principle of the risk premium analysis is that one is attempting to measure investors' expectation of the premium. Exh. FGE-4, pp. 17-18. Mr. Hadaway's "authorized ROE" approach has as its basis commissioners' cost estimates, not investors estimates, therefore, **it is not a market based analysis**. Furthermore, since commission decisions are based on record evidence that can be six months old and more, the commission ordered returns will necessarily be lagging behind the then current market information. Therefore, any comparison between the ordered returns and the bond yields is meaningless.[18]

b. Ibbotson Risk Premium and Harris-Marston Risk Premium Analyses

Mr. Hadaway performs two other risk premium analyses into his prefiled testimony to bias his cost of equity analyses upwards. Exh. FGE-4, pp. 26-27. He included an analysis based on Ibbotson Associates data ("Ibbotson Risk Premium") and an analysis based on Harris-Marston study data ("Harris-Marston Risk Premium"). *Id.* Without going into the many problems that the Department has already found with the use of the Ibbotson and Harris type data, suffice it to say that such historical data has been resoundingly rejected by the Department for use in determining the cost of equity for a utility company.[19] *Boston Gas Company*, D.P.U. 96-50, p. 128 (1996); *Massachusetts Electric Company*, D.P.U. 95-40, p. 97 (1995); *Boston Gas Company*, D.P.U. 93-60, p. 262 (1993); *Bay State Gas Company*, D.P.U. 92-111, p. 256-266

[18] A year to year comparison of the bond yields and the "authorized ROEs" shows how the returns lag the bond yields over time. See Exh. FGE-4, Schedule 5,p.1

[19] Interestingly, although Mr. Hadaway includes the Ibbotson risk premium numbers in his cost of equity analysis in this case, he went on to state specifically, that he does not endorse Ibbotson's methodology. Tr. 2, p. 209-210. Furthermore, he states that he uses neither the Ibbotson nor the Harris-Marston risk premium analyses in this case to determine the cost of equity for the Company. *Id.*

(1992). More important however, is the fact in both cases, the measure for the cost of equity was not a electric distribution company of similar investment risk to Fitchburg, nor for that matter a utility company. Rather, Mr. Hadaway used in both cases the cost of equity of the Standard & Poor's 500 to determine the risk premium. Tr. 2, p. 211 (referring to the Ibbotson study) and pp. 219 (referring to the Harris-Marston study). Since the Standard & Poor's 500 is generally considered to have investment risk greater than that of utility distribution companies, using this risk premium will necessarily bias the results upwards. Therefore, the Department should reject Mr. Hadaway's Ibbotson and Harris-Marston Risk Premium analyses, since they bare no relation to the Company's cost of equity.

Notwithstanding the Attorney General's arguments regarding the Company's risk premium analyses, if the Department decides that the Ibbotson risk premium analysis should be given weight in this proceeding, then it should require that analysis to conform with that recommended by the studies' authors. Tr. 2, pp. 212-218. Ibbotson recommends using the equity risk premium in the capital asset pricing model formula. *Id*. The formula sets the market required cost of equity equal to the riskless rate as measured by the yields on U.S. Treasury Strips plus the equity risk premium times beta. *Id* . Based on the evidence in the record, the equity risk premium for stocks is 8.1 percent, the beta for the comparison group of electric companies is 0.55, and the yields on 20-year, 5-year, and 30-day U.S. Treasury strips are 6.20 percent, 5.09 percent, and 3.45 percent, respectively. Therefore, depending on an investor's holding period (or investment horizon), the associated market returns would be as follows:

	20-Year Investment Horizon	5-Year Investment Horizon	30-Day Investment Horizon
Riskless Rate	6.20%	5.09%	3.45%
Market Premium	8.10	8.10	8.10
Beta	0.55	0.55	0.55
Equity Risk Premium	4.46	4.46	4.46
Cost Of Equity	10.66%	9.55%	7.91%

Therefore, if the Department were to use the Ibbotson Associates study, the appropriate cost of equity analysis derived from that study would determine a cost of equity in the range of 7.91 percent to 10.66 percent with a mid-point of 9.29 percent.

6. RISK PREMIUM ANALYSIS SUMMARY AND RECOMMENDATION

Mr. Hadaway's risk premium analyses are fundamentally flawed in many aspects. They are either mis-specified or are meaningless for determining the cost of equity for the Company. The Department should reject all of Mr. Hadaway's risk premium analyses.

7. COST OF EQUITY SUMMARY AND RECOMMENDATION

The Department should reject Mr. Hadaway's DCF and risk premium analyses. His risk premium analyses are fundamentally flawed and shed no light on the Company's cost of equity. On the other hand, his DCF analysis is biased upward by his selective rejection of analysts' forecasts and the models behind the approaches. Only by applying the approaches in a consistent and unbiased manner can one establish a basis for reasonable estimates of the cost of

equity for the companies in his comparison group. These applications yield a range of reasonable returns from 9.9 to 11.5 percent. Since these results reflect those of companies with higher risk, given that they are vertically integrated companies with generation and marketing risk requirements, the Department should chose a cost rate at the lower end of that range. For all of the reasons discussed here, the Attorney General recommends that the Department reject the Company's requested return on common equity and in its place use a 9.9 percent return.

V. CONCLUSION

WHEREFORE, for all of the foregoing reasons, the Attorney General urges the Department to find that Fitchburg's current rates are unreasonable and establish rates and charges consistent with the positions taken herein.

Respectfully submitted,

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